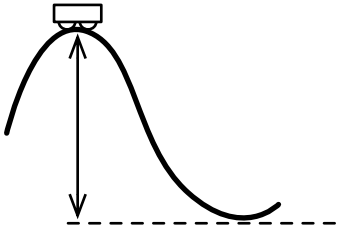
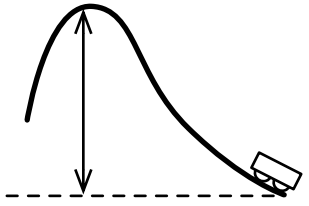
Corona Week 2

4 Conservation of Mechanical Energy



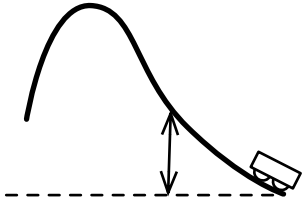
1. This coaster has a drop of ___ m. How fast will the coaster be moving at the bottom, assuming it starts from rest at the top?

Choose the mass of the coaster between 100 and 200 kg.
Choose the height of the drop to be between 40 and 70 m.



2. A King Da Ka style coaster launches a car at about ___ m/s at the bottom. What is the theoretical height of a hill that would make it completely run out of Kinetic E and then roll back?

Choose the start velocity of the coaster between 40 and 60 m/s.
Choose the mass of the coaster to be between 100 and 200 kg.



(DU) 3. a) For the coaster in #2, find its velocity when it is halfway up the height of the hill.
b) Does the mass of the coaster matter in any of these problems? Explain.